

## REMARKS

In the Office Action, Claims 17-24 were examined and stand rejected. In response to the Office Action, Claims 17 and 23 are amended, no claims are cancelled and Claims 25 and 26 are added. Applicants respectfully request reconsideration of pending Claims 17-26, in view of the following remarks.

### **I. Claims Rejected Under 35 U.S.C. §102**

Applicants respectfully assert that the Patent Office has failed to adequately set forth a *prima facie* rejection under 35 U.S.C. §102(b). “Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” Lindemann Maschinenfabrik v. American Hoist & Derrick (“Lindemann”), 730 F.2d 452, 1458 (Fed. Cir. 1994)(emphasis added). Additionally, each and every element of the claim must be exactly disclosed in the anticipatory reference. Titanium Metals Corp. of American v. Banner (“Banner Titanium”), 778 F.2d 775, 777 (Fed. Cir. 1985).

The Examiner has rejected Claims 17, 18 and 21 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,795,821 issued to Bacchetta et al. (“Bacchetta”). To the extent that the rejection applies to the amended claims, Applicants respectfully traverse this rejection.

Applicants respectfully submit that Claim 17, as amended, includes the following claim feature, which is neither taught nor suggested by Bacchetta or the references of record:

an adhesion layer formed on a surface of said oxide layer by treating said surface of said oxide layer with a gas. (Emphasis added.)

By way of contrast, thin oxide layer (2), as illustrated with reference to FIG. 2 of Bacchetta is formed by:

6) TEOS undoped (USG) oxide adhesion thin film layer deposition (about 350 Å thick, three seconds of deposition), between the two oxynitride films. (See col. 5, lines 64-66.)

In contrast to the treatment of a surface of said insulating layer with a gas to form an adhesion layer, as required by Claim 17, Bacchetta describes:

a spin on glass (SOG) spun onto the entire surface and then cured over which an oxide adhesion layer 2 is formed. (See col. 5, lines 38-46 and lines 55-63.)

The case law is quite clear in establishing that each and every element of the claim must be exactly disclosed in the anticipatory reference. *Id.* Accordingly, Applicants respectfully submit that Applicants’ amendment of Claim 17 prohibits the Examiner from establishing a *prima facie* case of anticipation of Claim 17 under 35 U.S.C. §102(b). Consequently, Applicants respectfully request that the Examiner reconsider and withdraw §102(a) rejection of Claim 17.

Regarding Claims 18 and 21, Claims 18 and 21 depend from Claim 17 and therefore include the patentable claim features of Claim 17, as described above. Accordingly, Claims 18 and 21, based on their dependency from Claim 17, and for at least the reasons described above, are also patentable over Bacchetta as well as the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §102(b) rejection of Claims 18 and 21.

## **II. Claims Rejected Under 35 U.S.C. §103**

The Examiner has rejected Claim 19 under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 5,795,821 issued to Bacchetta et al. ("Bacchetta") in view of U.S. Patent No. 5,795,833 issued to Yu et al. ("Yu"). Applicants respectfully traverse the Examiner's rejection.

After careful review of Yu, Yu fails to rectify the deficiencies attributed to Bacchetta in failing to teach or suggest formation of an adhesion layer on a surface of said oxide layer by treating said surface with said oxide layer with a gas. Assuming, *arguendo*, that Yu discloses a silicon oxide layer, Applicants respectfully submit Yu fails to teach or suggest the formation of an adhesion layer by application of a gas to a surface of an oxide layer, as required by Claim 17, as amended.

Accordingly, Claim 17 is patentable over Bacchetta in view of Yu, as well as the references of record. Hence, Claim 19, based on its dependency from Claim 17, is also patentable over Bacchetta in view of Yu, for at least the reasons described above. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 19.

The Examiner has rejected Claim 20 under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 5,795,821 issued to Bacchetta et al. ("Bacchetta") in view of Japanese Patent No. 361292964 issued to Oshika et al. ("Oshika"). Applicants respectfully traverse the Examiner's rejection

Applicants respectfully submit that the Examiner's citing of Oshika fails to rectify the deficiencies attributed to Bacchetta in failing to teach or suggest an adhesion layer formed on a surface of said oxide layer by treating said surface of said oxide layer with a gas. Accordingly, even assuming, *arguendo*, that Oshika teaches an adhesion layer including silicon oxynitride, as required by Claim 20, Applicants respectfully submit that Oshika does not teach formation of the adhesion layer by application of a gas to the surface of the oxide layer, as required by Claim 17.

Accordingly, Claim 17, as amended, is not anticipated by either Bacchetta or Oshika, whether viewed independently or in combination. Consequently, Claim 20, based on its dependency from Claim 17, for at least the reasons described above, is also patentable over Bacchetta, Oshika and the references of record. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 20.

The Examiner has rejected Claim 22 under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 5,795,821 issued to Bacchetta et al. ("Bacchetta") in view of U.S. Patent No. 5,807,787 issued to Fu et al. ("Fu"). Applicants respectfully traverse the Examiner's rejection.

Applicants respectfully submit that the Examiner's citing of Fu fails to rectify the deficiencies attributed to Bacchetta's failure to teach an adhesion layer formed on a surface of said oxide layer by treating said surface of said oxide layer with a gas. Accordingly, even assuming, *arguendo* that Fu teaches said second passivation layer includes polyimide, as required by Claim 22, the combination of Bacchetta in view of Fu, whether viewed independently or in combination, fail to teach or suggest the features of Claim 17, as amended.

Accordingly, Claim 17, as amended, is also patentable over Bacchetta in view of Fu, as well as the references of record. Consequently, Claim 22, based on its dependency from Claim 17, and for at least the reasons described above, is also patentable over Bacchetta, Fu and the references of record, whether viewed alone or in combination. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 22.

The Examiner has rejected Claim 23 under 35 U.S.C. §103(a) as obvious over Japanese Patent No. 5511335 issued to Fujitsu ("Fujitsu") in view of U.S. Patent No. 5,483,023 issued to Argos, Jr. et al. ("Argos"). Applicants respectfully traverse the Examiner's rejection.

Applicants respectfully submit that Claim 23, as amended, includes the following claim feature, which is neither taught nor suggested by either Fujitsu, Argos or the references of record:

a silicon oxynitride adhesion layer formed directly on a surface of said silicon dioxide insulating layer by treating said surface of said oxide layer with a gas. (Emphasis added.)

As correctly pointed out by the Examiner, Fujitsu fails to teach the silicon nitride hard passivation layer formed directly on said silicon oxynitride adhesion layer, as required by Claim 23. According to the Examiner, a silicon nitride layer, as taught by Argos would have been an obvious candidate to one of skill in the art at the time the invention was made in order to modify the device of Fujitsu to include a silicon nitride layer, as disclosed by Argos because it aids in preventing contamination. Applicants respectfully disagree with the Examiner's contention.

Argos is directed toward an:

ideal passivation material for a ferroelectric integrated circuit that prevents hydrogen gas and mobile ion contamination and also has the structural integrity to substantially reduce stress during packaging. (See col. 1, lines 44-47.)

Accordingly, Argos describes:

a three-layer passivation scheme comprised of a silicon dioxide insulating layer 32, a passivation layer 34 of a hard material subsequently sputtered onto the silicon dioxide layer 32 or if the layer is emitted directly on the surface of the unpassified integrated circuit and a final sealing layer 36. (As illustrated with reference to FIGS. 4-6 and 9 of Argos. See also col. 3, lines 44-47, col. 4, lines 12-15 and col. 5, lines 7-10.)

Although Argos describes silicon dioxide layer 32 as optional, each embodiment depicted by Argos illustrates passivation layer 34 formed over silicon dioxide layer 32 (See FIGS. 3-9). Applicants submit that one skilled in the art would apply the passivation film 34 onto the silicon dioxide layer 32, as taught by Argos, since the teachings of Fujitsu are directed to eliminating the formation of impurities on a surface of the insulating film, as taught by Fujitsu. Hence, the combination of Fujitsu in view of Argos fails to teach the passivation film formed directly on a surface of the silicon oxynitride film taught by Fujitsu.

Yet, Claim 23, as amended, requires:

a silicon nitride hard passivation layer formed directly on a surface of said silicon oxynitride adhesion layer. (Emphasis added.)

Accordingly, Applicants respectfully submit that the amendment to Claim 23, to require formation of the silicon nitride hard passivation layer directly on a surface of the silicon nitride adhesion layer prohibits the Examiner from establishing a *prima facie* case of obviousness of Claim 23 over Fujitsu in view of Argos. Consequently, Applicants respectfully submit that Claim 23, as amended, is patentable over Fujitsu, Argos and the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 23.

Regarding Claim 24, Claim 24 depends from Claim 23 and therefore includes the patentable claim features of Claim 23, as described above. Furthermore, Applicants respectfully submit that the Examiner's citing of Bryant fails to rectify the deficiencies attributed to the combination of Fujitsu in view of Argos for failing to teach a silicon nitride hard passivation layer formed on a surface of said silicon nitride oxynitride adhesion layer, as required by Claim 23, as amended. Accordingly, Applicants respectfully submit that Claim 24, based on its dependence from Claim 23, and for at least the reasons described above, is also patentable over Fujitsu, Argos and Bryant, whether viewed independently or in combination. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 24.

Regarding new Claim 25, Claim 25 depends from Claim 17, and therefore includes the patentable claim features of Claim 17, as described above. Accordingly, new Claim 25, based on its dependency from Claim 17, and for at least the reasons described above, is also patentable over the references of record.

Regarding new Claim 26, Claim 26 depends from Claim 23, and therefore includes the patentable claim features of Claim 23, as described above. Accordingly, Claim 23, based on its dependency from Claim 23, and for at least the reasons described above, is also patentable over the references of record.

### **CONCLUSION**

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance, and such action is earnestly solicited at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR, & ZAFMAN LLP

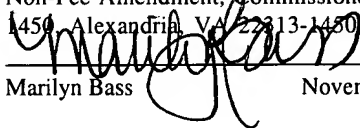
Dated: November 17, 2003

12400 Wilshire Boulevard  
Seventh Floor  
Los Angeles, California 90025  
(310) 207-3800

By:   
Joseph Lutz, Reg. No. 43,765

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Marilyn Bass

November 17, 2003